



Case Report

Volume 11 Issue 3 - April 2022
DOI: 10.19080/AJPN.2022.11.555869

Acad J Ped Neonatol

Copyright © All rights are reserved by Sunil Pawar

Congenital Dengue - Uncommon Presentation



Sunil Pawar*, Oleti Tejopratap and Vignatha Sajja

Department of Neonatology, Fernandez Hospital, Hyderabad, Telangana India

Submission: December 22, 2021; **Published:** April 28, 2022

***Corresponding author:** Sunil Pawar Department of Neonatology, Fernandez Hospital, Hyderabad, Telangana India

Keywords: Pregnancy; Congenital; Dengue; Neonate

Introduction

Dengue is a febrile illness and systemic viral infection caused by a Flavivirus and transmitted to the humans by aedes aegypti mosquitoes [1]. The other modes of transmission, such as perinatal transmission has not so uncommon. Dengue has become a major public health problem in tropical and subtropical regions. Clinical manifestations vary, ranging from asymptomatic infection to flu like illness in dengue fever and sometimes severe hemorrhage resulting in shock and death. Concern regarding women who are pregnant becoming infected with dengue has been heightened in recent years due to an increase in adolescent and adult infections [2]. Dengue in pregnancy is associated with preterm delivery, intra-uterine death, miscarriages and acute fetal distress during labour [3-5]. Apart from foetus adversely being affected by complications due to maternal dengue, the foetus can directly be infected with the virus due to perinatal transmission. Until now, all the reported cases of congenital Dengue infection have occurred in neonates whose mothers were infected very late in pregnancy. We report 2 newborn infants with vertical transmission of Dengue virus and presenting as Respiratory distress.

Case 1

A 30-year-old primi gravida with history of gestational diabetes and hypertension, at 38+1 weeks of gestation was admitted hospital. She was febrile at admission with history of pyrexia for 2 days. A complete blood count revealed thrombocytopenia with platelet count of 43000/cumm. Dengue antigen test NS1 done, which was positive. As there was suspected pre-eclampsia and fetal bradycardia, labor was induced, and baby was delivered by assisted vaginal birth. The baby was a male infant born with an Apgar score of 8 at 1 minute and a birth weight of 3.23 kg. The baby had respiratory distress at birth, hence shifted to NICU on Neopuff. Baby was started on heated humidified high flow nasal cannula (HFNC). Complete blood picture, septic screening done on

day one, which were normal. Chest x-ray done was suggestive of transient tachypnoea of newborn. On day 2 of life baby developed petechial rashes over extremities and lower abdomen and had features suggestive of shock, for which repeat work up including Dengue NS1 was sent and started on inotropes. Repeat CRP came as positive, blood culture was sent, and intravenous antibiotics were started. Dengue NS1 was positive. Serial blood counts showed gradual decline in platelet counts. Baby was treated according to standard national dengue guidelines. The baby's heart rate, blood pressure, capillary refilling time, warmth of peripheries and urine output were closely monitored to detect any hemo-dynamic instability.

HFNC was weaned off on day 5, but in v/o persistent tachypnoea and desaturations, oxygen was given by nasal prongs. On day 6 of life in v/o persistent oxygen requirement and to check for dengue myocarditis 2D echo done was normal. Repeat chest x ray was suggestive of Pneumonitis Changes which was managed with oxygen support. Platelet count started to raise on day 8 of life. Baby required oxygen till day 13 of life and was discharged home on day 16 of life.

Case 2

A Full term (39+5 weeks gestation), female baby was born to a 28-year-old mother by normal vaginal birth with Apgar scores of 8 and 9 at 1 and 5 minutes of birth respectively. Mother had complaints of fever on postnatal day 1 for which she was evaluated and found to be Dengue positive with thrombocytopenia. As mother was dengue positive, baby was also evaluated and turned out to be Dengue positive. CRP was positive, so blood culture was sent, and antibiotics were started. Baby was mother side with meticulous blood counts and vitals monitoring. Antibiotics were stopped on day 4 of life as culture reports were negative of bacterial infections. As Serial platelet counts done were on a

decreasing trend, on day 7 of life baby was shifted to NICU in v/o worsening thrombocytopenia (50000/cumm) with dull activity. During NICU stay baby was found to have features suggestive of shock and decreased oxygen saturations, which was treated with normal saline boluses and nasal prongs oxygen respectively. Chest x-ray was only showing increased broncho vascular markings with pneumonic changes. Baby didn't develop fever, rashes, or bleeding manifestations during the course of illness. Fluids were titrated based on baby's hemodynamic status and oral feeds were given simultaneously. When platelet count dropped to 10000/cumm on day 8 of life, platelet transfusions were started (Total 5 units given). 2D ECHO done to look for dengue myo-carditis was normal. Baby improved gradually; oxygen was stopped after giving for 2 days and baby was discharged on day 12 of life with last plate-let count being 1.05 lakhs.

Discussion

Congenital dengue infection is caused by transplacental transfer of the virus during pregnancy when there is insufficient time for formation of antibody. This usually happens in later part of pregnancy or near delivery time. Tan et al described vertical transmission rate as 1.6% [6]. Multiple case reports are there for neonate presenting with rash, fever, thrombocytopenia, hepatitis and shock. These two babies mainly presented with respiratory distress and dengue pneumonitis which took almost two weeks for them to recover. Salgado et al and Promphan et al described cardiac related complications in dengue positive paediatric patients [7,8]. The first mother already had fever one day before delivery. And second mother was started having fever after delivery. The diagnosis of dengue was confirmed by the haematological and serological tests. If the mother having previous infection with dengue, they will have antibodies against dengue virus and they can transfer these antibodies to the fetus. If the fetus get infection also it will be mild disease. In case of primary infection or failure to transfer these anti-bodies to the fetus will lead to severe dengue infection to the neonates. Maternal age is one of the important risk factor associated with dengue infection. Younger mother < 20 years were less sero positive as compared to older mothers > 20 years were significantly sero positive. In our both the babies fever is the one of the presenting symptoms which started after 3 days of life. It was continuous fever requiring antipyretic treatment and lasted for about 4 days [9]. The incubation period for dengue infection is about 4 to 8 days

and it varies from primary to secondary infection. In our both the cases initial 3 days period is ok, both the babies are stable and afterwards stated having fever and thrombocytopenia's requiring platelet transfusion and inotropic support. Both the babies require long respiratory support and oxygen requirement. Pneumonitis and myocarditis are one of the common manifestations of the congenital dengue. The dengue serotypes may play role for the severity of the disease. The mode of delivery usually will not affect the disease to its course. Few of the cases presented with similar signs of sepsis, diarrhoea, poor feeding, irritability, lethargy.

Conclusion

Congenital dengue infection is common nowadays. It is more common in the endemic areas and requires high index of suspicion. Usual presentation may start with fever and thrombocytopenia but can present with unusual symptoms also. Our both babies had fever and pneumonitis changes on the x ray which required prolonged NICU stay and support.

References

1. World Health Organization. Dengue and severe dengue 167.
2. Friedman E, Dallah F, Harville E, Myers L, Buekens P, et al. (2014) Symptomatic dengue infection during pregnancy and infant outcomes: a retrospective cohort study. *PLoS Negl Trop Dis* 8(10): e3226.
3. Basurko C, Carles G, Youssef M, Wael E L Guindi (2009) Guindi WE: Maternal and fetal consequences of dengue fever during pregnancy. *Eur J Obstet Gynecol Reprod Biol* 147(1): 29-32.
4. Fernandez R, Rodriguez I, Borbonet E, Vazquez S, Guzman MG, et al. (1994) Study of the relationship dengue-pregnancy in group of urban-mothers. *Rev Cubana Med Trop* 46(2): 76-78.
5. Carles C, Peifter H, Talarnin A (1999) Effect of dengue fever during pregnancy in French Guiana. *Clin Infect Dis* 28(3): 637-640.
6. Tan PC, Rajasingam G, Devi S, Omar SZ (2008) Dengue infection in pregnancy: prevalence, vertical transmission, and pregnancy outcome. *Obstet Gynecol* 111(5): 1111-1117.
7. Salgado DM, Eltit JM, Mansfield K, César Panqueba, Dolly Castro et al. (2010) Heart and skeletal muscles are targets of dengue virus infection. *Pediatr Infect Dis J* 29(3): 238-242.
8. Promphan W, Sopontammarak S, Pruekprasert P, Kajornwattanakul W, Kongpattanyothin A (2004) Dengue myocarditis. *Southeast Asian J Trop Med Public Health* 35(3): 611-613.
9. Pe' rez-Padilla J, Rosario-Casablanca R, Pe' rez-Cruz L, Rivera-Dipini C, Tomashek K (2011) Perinatal transmission of dengue virus in Puerto Rico: a case report. *Open J Obstet Gynecol* 1(3): 90-93.



This work is licensed under Creative Commons Attribution 4.0 License
DOI: [10.19080/AJPN.2022.11.555869](https://doi.org/10.19080/AJPN.2022.11.555869)

**Your next submission with Juniper Publishers
will reach you the below assets**

- Quality Editorial service
- Swift Peer Review
- Reprints availability
- E-prints Service
- Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats
(Pdf, E-pub, Full Text, Audio)
- Unceasing customer service

Track the below URL for one-step submission

<https://juniperpublishers.com/online-submission.php>